

AMENDMENTS TO THE SPECIFICATION

IN THE ABSTRACT OF THE DISCLOSURE:

Replace the Abstract of the Disclosure currently of record with the attached new Abstract of the Disclosure.

IN THE SPECIFICATION:

Please amend the paragraph beginning on page 1, line 5 as follows:

The present invention relates to a method for checking the existence of an optical disk, and more specifically, but not by way of limitation, to a method for checking the existence of an optical disk by using the focus error signal or focus OK signal yielded by comparison of a reference level with a beam strength signal.

Please amend the paragraph beginning on page 2, line 12 as follows:

FIG. 2A shows a focus error (FE) signal waveform generated by the optical pickup 2 in the case where no disk is contained in the disk tray of the optical disk drive. Since the incident laser beam is not reflected, the focus error signal is irregular and contaminated by a significant amount of noise, the level of the focus error signal being much lower than a prescribed reference level Ref1a Ref11.

Please amend the paragraph beginning on page 3, line 13 as follows:

(2) It is an object of the present invention to provide a method for checking the existence of an optical disk using a focus OK signal that prevents misjudgment caused by noise contained in a focus error signal.

(3) Please amend the paragraph beginning on page 3, line 17 as follows:

It is another object of the present invention to provide a method for checking the existence of an optical disk by comparing the sum of focus error of which the level is less than a prescribed reference level with another reference level.

(4) Please amend the paragraph beginning on page 3, line 22 as follows:

The method for checking the existence of an optical disk using a focusing signal in accordance with an embodiment of the present invention comprises examining whether a focus OK signal is asserted while moving an optical pickup in the direction of the place where ~~an~~ the optical disk is placed, starting the detection of the value of focus error if ~~said~~ the focus OK signal is asserted, and judging the existence of an optical disk, depending upon the magnitude of detected value.

(5) Please amend the paragraph beginning on page 3, line 31 as follows:

The method for checking the existence of an optical disk using a focusing signal in accordance with another embodiment of the present

invention comprises examining whether the peak of a focus error signal exceeds a predefined reference level, while moving an optical pickup in the direction of the place where an the optical disk is placed, detecting and summing the magnitude of focusing signal after the peak is detected, and judging the existence of an optical disk, depending upon the magnitude of the sum value.

Please insert the paragraph below before the subtitle on page 4, line 9 as follows:

--These and other objects of the present application will become more readily apparent from the detailed description given hereinafter. However, it should be understood that the detailed description and specific examples, while indicating preferred embodiments of the invention, are given by way of illustration only, since various changes and modifications within the spirit and scope of the invention will become apparent to those skilled in the art from this detailed description.--

Please amend the paragraph beginning on page 4, line 17 as follows:

FIGS. 2A to 2D ~~is~~ are several focus error signal waveforms measured under various environments;

Please amend the paragraph beginning on page 4, line 21 as follows:

FIG. 4 ~~is~~ shows waveforms of ~~important~~ signals used by the method for checking the existence of an optical disk in accordance with

an embodiment of the present invention;

Please amend the paragraph beginning on page 4, line 27 as follows:

FIGS. 6A to 6C are waveforms of focus OK signal and focus error signal obtained when a disk exists and when it does not;

Please amend the subtitle beginning on page 5, line 6 as follows:

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT
EMBODIMENTS

Please amend the paragraph beginning on page 6, line 1 as follows:

FIG. 4 shows the waveforms of four important signals used by an embodiment of the present invention for checking the existence of an optical disk. The first signal is the focus drive signal corresponding to the focus control signal (FCS) created by the servo unit 5. The second signal is the beam strength signal (BS) outputted by the optical pickup 2 while the objective lens moves in response to the focus drive signal. In a 3-beam optical pickup, the sub-beam-added signal is generally used as the beam strength signal. In a 1-beam optical pickup, however, the beam strength signal is derived from the filtered RF signal. The third signal is the focus OK (FOK) signal created by comparison comparing the beam strength (BS)

signal and a predefined reference signal C1 set low enough to detect the existence of a rewritable optical disk. The last signal is the focus error signal. The method for checking the existence of an optical disk using these signals will be explained in detail with reference to the block diagram in FIG. 3 and a flowchart shown in FIG. 5.

Please amend the paragraph beginning on page 6, line 20 as follows:

When the disk tray closes or the optical disk drive is at power-on of the optical disk drive (S1), the microcomputer 6 initializes a sum variable value (S2) and starts focus search. In response to the focus search command, the servo unit 5 outputs the focus control signal to move the objective lens. The RF unit 3 generates the focus OK (FOK) signal by comparing the beam strength (BS) signal with a predefined reference level C1.

Please amend the paragraph beginning on page 6, line 28 as follows:

The microcomputer 6 examines the state of the focus OK (FOK) signal (S3) and starts A/D conversion of the focus error signal if the focus OK signal is asserted (S4). Therefore, A/D conversion of the focus error signal is performed only while the level of the focus OK signal is high, as shown in FIG. 6A. Then, the microcomputer 6 adds the digitized focus error to the sum variable value only if the digitized error exceeds a

② 13 predetermined reference level C_{MIN} (S5).

Please amend the paragraph beginning on page 9, line 11 as follows:

When the disk tray closes or the optical disk drive is at power-on of the optical disk drive (S10), the objective lens moves upward to find a focus point (S11). The microcomputer 6 digitizes the focus error signal at a constant rate, detects the peak point, and compares the peak level with a high reference level C_{UMIN} (S12). Only when the peak level is greater than the high reference level C_{UMIN} , the microcomputer 6 samples the focus error signal for a given time duration (S13) after the peak is detected. And the microcomputer 6 adds the absolute values of the sampled focus error of which the level is lower than a low reference level C_{LMIN} (S14) and then compares the sum value with a predefined value (S15). If the sum value is less than the predefined value, the microcomputer 6 concludes that a disk does not exist (S17). Otherwise, it concludes that a disk has been inserted (S16).

Please amend the paragraph beginning on page 10, line 3 as follows:

It is possible to add the absolute values, which are above the noise level, separately according to the sign of the focus error and to make a decision by comparing the smaller value with the reference level.

Please amend the paragraph beginning on page 10, line 7 as follows:

A/6

The method for checking the existence of an optical disk in accordance with the present invention prevents misjudgment of the existence of an optical disk which are caused by noise contained in the focus error signal or low reflection ratio of a disk.